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Claims.

Claim 1 (currently amended):

1. An apparatus comprising: a waveguide, and plurality of receiving or transmitting domains, and a set of wave generators, wherein said set contains at least one generator, and each generator sends pulses of signals into adjacent waveguide, and said plurality of domains is presented by continuous distance or continuous area matching shape of the waveguide or collection of discrete receiving or transmitting elements, wherein each of said domains render nonlinear response with respect to energetic state of the waveguide at immediate geometrical proximity, furthermore said location coincides with physical location of collision of at least two said pulses, method of addressing a continuous range of locations in physical media that employs interference of at least two waves propagating in continuous media, wherein two wave fronts meet at a location inside the media and said location uniquely identifies a location within said continuous range.

Claim 2 (currently amended):

2. An apparatus of claim 1 method of addressing a continuous range of locations in physical media that employs interference of at least two waves propagating in continuous media, wherein at least two of said pulses waves propagate in the same direction with different phase velocities and two wave fronts meet at a

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~~location inside the media and said location uniquely identifies a location within said continuous range.~~

Claim 3 (currently amended):

3. ~~An apparatus of claim 1 method of addressing a continuous range of locations in physical media that employs interference of, wherein at least two of said pulses are waves propagating in said waveguide continuous media by distinct passes, wherein and fronts of the pulses two waves interfere in a media that reveal nonlinear properties and location of said interference uniquely identifies a location within said continuous range.~~

Claim 4 (currently amended):

4. ~~An apparatus of claim 3 method of addressing a continuous range of locations in physical media that employs interference of at least two waves propagating in continuous media by distinct passes, wherein fronts of two waves interfere in a media that reveal nonlinear properties and location of said interference uniquely identifies a location within said continuous range, and wherein there are at least two of said pulses waves propagating in the same direction with different velocities.~~

Claim 5 (currently amended):

5. ~~An apparatus of claim 1 method of addressing a continuous range of locations in physical media that employs interference of at least two waves propagating in~~

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~~continuous media, wherein two wave fronts meet at a location inside the media and said location uniquely identifies a location within said continuous range, wherein at least two of said pulses waves have shape of pulses with defined finite length.~~

Claim 6 (currently amended):

6. An apparatus method of claim 2, wherein at least two of said pulses waves have ~~shape of pulses with defined~~ finite length.

Claim 7 (currently amended):

7. An apparatus of claim 3 method of addressing a continuous range of locations in physical media that employs interference of at least two waves propagating in continuous media by distinct passes, wherein fronts of two waves interfere in a media that reveal nonlinear properties and location of said interference uniquely identifies a location within said continuous range, wherein at least two of said pulses waves have shape of pulses with defined finite length.

Claim 8 (currently amended):

8. An apparatus method of claim 4, wherein at least two of said pulses waves have ~~shape of pulses with defined~~ finite length.

Claim 9 (currently amended):

9. An apparatus method of claim 5 addressing a continuous range of locations in

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~~physical media that employs interference of at least two waves propagating in continuous media, wherein two wave fronts meet at a location inside the media and said location uniquely identifies a location within said continuous range, wherein at least one pulse waves have shape of Gaussian pulse with defined width.~~

Claim 10 (currently amended):

10. ~~An apparatus method of claim 2 6, wherein at least one pulse waves have shape of Gaussian pulse with defined width.~~

Claim 11 (currently amended):

11. ~~An apparatus method of claim 7 of addressing a continuous range of locations in physical media that employs interference of at least two waves propagating in continuous media by distinct passes, wherein fronts of two waves interfere in a media that reveal nonlinear properties and location of said interference uniquely identifies a location within said continuous range, wherein at least one pulse waves have shape of Gaussian pulse with defined width.~~

Claim 12 (currently amended):

12. ~~An apparatus method of claim [[4]] 8, wherein at least one pulse waves have shape of Gaussian pulse with defined width.~~

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Claim 13 (currently amended):

13. An apparatus ~~method of claim 1~~ of addressing a continuous range of locations in physical media that employs interference of at least two waves propagating in continuous media, wherein two wave fronts meet at a location inside the media and said location uniquely identifies a location within said continuous range, wherein properties of said propagation media nonlinear with respect to amplitude of at least one of said pulses waves.

Claim 14 (currently amended)

14. An apparatus ~~method of claim 2~~, wherein properties of said propagation media nonlinear with respect to amplitude of at least one of said pulses waves.

Claim 15 (currently amended):

15. An apparatus of claim 1 ~~artificially produced structure capable of~~, wherein said waveguide propagat[[ing]]es particular types of pulses waves with low attenuation and utiliz[[ing]]es interference of their waves to dynamically alter [[a]] at least one physical property of confined volume of compositing material.

Claim 16 (currently amended):

16. An apparatus ~~artificially produced structure of claim 15~~, wherein envelope of said apparatus structure has at least one of its base dimensions (height, width, length) 100 times larger than other two dimensions.

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Claim 17 (currently amended):

17. An apparatus ~~artificially produced structure~~ of claim 16 that can be bent to form a loop with minimal diameter less than 5 mm.

Claim 18 (currently amended):

18. An apparatus ~~artificially produced structure of claim 15 capable of propagating particular types of waves with low attenuation and, wherein said waveguide having shaped like~~ resembling fiber and laid out to cover two-dimensional surface using ordered pattern.

Claim 19 (currently amended):

19. An apparatus ~~structure of claim 18 where[[]]in said pattern resembles woven or knotted fabric.~~

Claim 20 (currently amended):

20. An apparatus ~~structure of claim 18 where[[]]in said pattern is parallel lines.~~

Claim 21 (currently amended):

21. An apparatus ~~structure of claim 19 where[[]]in said pattern is rows and columns, wherein angle between the rows and the columns may be other than $\pi/2$.~~

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Claim 22 (currently amended):

22. An apparatus ~~artificially produced structure~~ of claim 15, wherein envelope of said apparatus ~~structure~~ has at least one of its base dimensions (height, width, length) 100 times smaller other dimensions.

Claim 23 (currently amended):

23. An apparatus ~~artificially produced structure~~ of claim 1 ~~capable of propagating particular types of waves with low attenuation and utilizing interference of waves,~~ wherein said waveguide additionally coupled with plurality of transducers to query a value of predefined physical property of dynamically selected confined volume of compositing structure.

Claim 24 (currently amended):

24. An apparatus ~~structure~~ of claim 15 that contains materials with electro-optical properties and said properties are dynamically ~~changed~~ controlled.

[Claim 25] (Canceled)

Claim 26 (currently amended):

26. An apparatus of claim 1 ~~continuously addressable material utilizing the method of this invention, where[[]]in plurality said of elements~~ functional layer, as ~~defined in this invention,~~ contains at least one ordered array[[s]] of discrete microstructures.

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[Claim 27] (Canceled)